**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**
BEFORE THE HONORABLE BOARD OF PATENT APPEALS

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| In re the application of: | Group Art Unit: 2645 |
| Charles Meubus et al. | Examiner: Phan, Joseph T. |
| Application No: 09/401,521 | Attorney Docket: 92118-11C |
| Filed: September 22, 1999 | |
| For: INTERNET-BASED TELEPHONE CALL MANAGER | |

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**APPELLANT'S BRIEF UNDER 37 C.F.R. 1.192**

The Assistant Commissioner of Patents
Washington, D.C. 20231
U.S.A.

Dear Sir or Madam:

The following is the Appellant's Brief, submitted in triplicate and under the provisions of 37 C.F.R. 1.192. The fee of $330 required by 37 C.F.R. 1.17(c) is enclosed.

**Real Party in Interest**

The real party in interest is the assignee of record, i.e. NORTEL NETWORKS LIMITED, 2351 Boulevard Alfred-Nobel, St. Laurent, Quebec, H4S 2A9, CANADA.

**Related Appeals and Interferences**

There are no related appeals or interferences that will directly affect, be directly affected by or have a bearing on the present appeal.

**Status of Claims**

The present appeal is directed to all of the rejected claims in this application, namely, claims 21-37, 39-43, 45-48, and 50-61.

**Status of Amendments**

No amendments have been filed after final rejection.

**Summary of the Invention**

The invention relates to an improved method and apparatus for managing telephone calls directed to a subscriber telephone line that is initially in-use to connect a data terminal to a data network.

During a dialup data communications session, a subscriber's telephone line is used to transmit data to and from a data network. A subscriber is therefore neither able to detect nor respond to an incoming call attempt when a data communications session is in progress.

Known techniques for alleviating this problem permit a subscriber to be notified of and to handle incoming calls from the Public Switched Telecommunication Network (PSTN) via the ongoing data communications session (e.g. by way of a popup window on the subscriber's computer).

In a typical solution, a call directed to a subscriber telephone line that is in use for a dialup session is forwarded to a conventional PSTN termination point (i.e. Directory Number) using conventional call forwarding (e.g. the Call Forward Busy feature). An Internet Access Service at the termination point is then employed to notify the subscriber of the forwarded call at the subscriber's data terminal.

A disadvantage of this solution is the fact that voice channel or trunk circuit bandwidth between a calling party and a subscriber may be reserved prior to the receipt of a signaling message that causes the subscriber to be

notified of an incoming call. Such reservation is wasteful of network resources, e.g. if the subscriber decides not to take the incoming call. Such solutions may also be slow due to the mechanics of call forwarding.

The present invention addresses this disadvantage. In particular, the present invention employs a signaling network such as the Advanced Intelligent Network (AIN) to transmit the signaling message indicative of an incoming call without any associated reservation of voice channel or trunk circuit bandwidth. This is for example shown in FIG. 7 of the application. In that figure, receipt of the signaling message which causes the subscriber to be notified of an incoming call (i.e. the Call_Ind() invocation initiated by PSTN-G [4]) is performed prior to any reservation of voice channels/trunk circuits (i.e., prior to transmission of an Address Complete Message (ACM) indicating that trunk circuit bandwidth has been reserved).

Thus, the present invention effectively shifts the subscriber notification functionality entirely into the signaling network (e.g. AIN).

Capabilities of exemplary embodiments of the invention generally include incoming call indication (page 9, line 6 – page 11, line 10, FIGS. 2 to 4); message waiting indicator delivery (page 11, line 12 – page 13, line 10, FIGS. 5 and 6); and incoming call disposition (page 13, line 11 – page 14, line 28, FIGS. 7 and 8).

In accordance with one aspect of the invention, there is provided, in a switched telephone network, comprising: a plurality of telephony switches [1, 2, 3] interconnected in a switched traffic carrying network [7] for carrying telephone call traffic and an associated signaling network [11, 12, 20] for carrying signaling information relevant to the establishment of call paths on said traffic carrying network [7]; a method of processing an incoming call directed to a specified subscriber telephone line on said traffic carrying network [7], said specified subscriber telephone line initially in-use to connect a data terminal [16] to a data network [8], said method comprising: receiving a signaling message from said signaling network [11, 12, 20] generated in response to said

incoming call, said received signaling message received prior to establishment of a call path for said incoming call on said traffic carrying network [7]; in response to said received signaling message, dispatching a first data message indicative of said incoming call to said data terminal [16] on said data network [8] by way of said traffic carrying network [7] and said specified subscriber telephone line.

**Issues**

The issues at appeal are whether the Examiner erred in:

A. rejecting claims 21-29, 30-31, and 33-35 under 35 U.S.C. 102(e) in view of US Patent No. 5,805,587 to Norris et al. (hereinafter "Norris"); and

B. rejecting claims 32, 36, 37, 39-43, 45-48, and 50-61 under 35 U.S.C. 103(a) in view of Norris and US Patent No.5,572,583 to Wheeler et al. (hereinafter "Wheeler").

**Grouping of claims**

Each of the following claim groups I-IV is independently and separately patentable:

Group I: Claims 21-23, 25-31, and 33-35;

Group II: Claim 24;

Group III: Claims 32, 36-37, 39-43, 45-48, 50-51, 53-57, and 59-61;

Group IV: Claims 52 and 58.

The claims of the first two claim groups (I-II) were rejected under 35 U.S.C. 102(e). The claims of the remaining claim groups (III-IV) were rejected under 35 U.S.C. 103(a).

For clarity, it is noted that claim 49, which is not listed above, was not rejected, but rather was objected to as being dependent upon a rejected base claim, and was deemed allowable if rewritten in independent form.

**Argument**

**A. Rejection of claims 21-29, 30-31, and 33-35 (i.e. Claim Groups I-II) under 35 U.S.C. 102(e) in view of Norris**

1. Claim Group I: Claims 21-23, 25-31, and 33-35

Referring to the first claim (claim 21) in Claim Group I, in order to anticipate claim 21, Norris must disclose each and every element of claim 21. It is submitted that Norris does not in fact disclose each and every element of claim 21.

Claim 21 is set forth below in its entirety (with embedded reference numerals to facilitate cross reference to the drawings):

21. In a switched telephone network, comprising:

a plurality of telephony switches [1, 2, 3] interconnected in a switched traffic carrying network [7] for carrying telephone call traffic and an associated signaling network [11, 12, 20] for carrying signaling information relevant to the establishment of call paths on said traffic carrying network [7];

a method of processing an incoming call directed to a specified subscriber telephone line on said traffic carrying network [7], said

specified subscriber telephone line initially in-use to connect a data terminal [16] to a data network [8], said method comprising:

a. receiving a signaling message from said signaling network [11, 12, 20] generated in response to said incoming call, said received signaling message received prior to establishment of a call path for said incoming call on said traffic carrying network [7];

b. in response to said received signaling message, dispatching a first data message indicative of said incoming call to said data terminal [16] on said data network [8] by way of said traffic carrying network [7] and said specified subscriber telephone line.

It is submitted that Norris fails to disclose receiving a signaling message from a signaling network generated in response to an incoming call directed to a specified subscriber telephone line on a traffic carrying network, said received signaling message received prior to establishment of a call path for the incoming call. There is simply no indication in Norris that a signaling message is received prior to establishment of a call path for an incoming call.

In the Advisory Action dated October 27, 2003, the Examiner relies on column 6, lines 5-15 in support of the position that a signaling message in Norris is received prior to establishment of a call path. The Applicants respectfully submit that the cited passage fails to support the position espoused by the Examiner.

The passage cited by the Examiner is reproduced below in its entirety:

"Calls directed to Internet 300, on the other hand, are routed over communications path 150-11.) The signaling information that is transported over a D channel of path 150-10 includes, inter alia, the forward-to-number used by CO 25 and the ANI of station S1. Such

information may also include the calling party telephone number (station S2). PBX 235, responsive to receipt of such information, sends a message identifying the newly-arrived call and containing information relating thereto to processor 205 via API 230. Processor 205, in turn, instructs PBX 235 to assign an idle VSP 245i to the call."

When the above passage is considered in conjunction with the overlapping passage cited by the Examiner in the Final Office Action in support of the same position (column 5, line 66 – column 6 line 11; see Examiner's Response to Arguments, Final Office Action), it will be seen that a different conclusion is in fact supported. Specifically, the cited passages suggest that any signaling message received at the IAS 200 is received with, and not prior to, the call.

As noted at column 5, line 66 – column 6, line 3 of Norris:

"To re-route the call, TS 105 signals IAS 200 (PBX 235) that a call is being routed (forwarded) thereto via an idle B channel serving the particular call type, in which such signaling is transmitted over the associated D signaling channel. [Emphasis added]

Consistent use of the present verb tense ("signals", "is being routed", "is transmitted") in the above excerpt suggests that B channel (voice) and D channel (signaling) information is sent together.

Moreover, the last sentence of the passage cited by the Examiner in the Advisory Action provides further support for the conclusion that establishment of call paths and signaling are essentially contemporaneous. The text at column 6, lines 14-15 of Norris describes treatment of a call forwarded to IAS 200 by PBX 235:

"Processor 205, in turn, instructs PBX 235 to assign an idle VSP 245i to the call."

A VSP (Voice Signal Processor) interconnects conventional telephone signaling messages and voice signals received from the public switched network with conventional TCP/IP packet network communications transported over the Internet (see column 5, lines 31-36). That is, VSPs process both signaling messages and voice information. The assignment of an idle VSP to an incoming call suggests that the call comprises not only signaling messages, but also voice information.

In short, no signaling messages appear to be received prior to establishment of call paths.

The Examiner had additionally relied upon column 1, lines 41-57 and column 6, lines 28-50 in the Final Office Action to support the position that a signaling message in Norris is received prior to establishment of a call path. The Applicants respectfully submit that these passages also fail to support that position.

For example, the cited passage at column 1, lines 41-57 appears to support the opposite conclusion to that put forth by the Examiner. As noted in column 1, lines 41-43 of Norris:

"Specifically, a call directed to the subscriber <u>may be forwarded via the public switched network to a services platform</u>, which, in turn, establishes a connection to the subscriber using the Internet, and then notifies the subscriber of the call waiting via the Internet." [Emphasis added]

The excerpted text appears to indicate that Norris notifies the ICW subscriber of the waiting call <u>after</u> establishing a connection between the calling

party and the services platform. It does not provide any evidence that a signaling message is received prior to establishment of a call path.

Moreover, the paragraph including the passage at column 6, lines 25-28 (i.e. beginning at column 6, line 16) makes clear that a call from the caller to the IAS 200 is established in order to signal provide call notification to the Internet connected subscriber. Specifically, at column 6, line 16:

> "Since the station 82 call is forwarded to IAS 200 via path 150-10, then the call is received via PBX 235...." [Emphasis added]

That is, in response to a caller placing a call to an ICW subscriber interconnected with the Internet, a call is established to the IAS over the communications path, and any signaling message is received at the IAS is received with the call, and not prior to establishment of a call path for the incoming call, as claimed.

Even if one does not accept the fact that Norris transmits voice information and signaling information together, Norris is at best ambiguous about when signaling messages arrive in relation to call path establishment.

Accordingly, as Norris does not clearly disclose each and every element of claim 21, Norris cannot anticipate claim 21.

Turning to the remaining claims in Claim Group I, each of which is directed to receiving a signaling message prior to establishment of a call path for the incoming call, the same argument applies: the Examiner has not established that Norris discloses each and every element of the claims in question.

Therefore, reversal of the Examiner's rejection under 35 U.S.C. 102(e) of all of the claims of Group I is respectfully requested.

2. Claim Group II: Claim 24

Claim 24 depends from independent claim 21 and defines the additional claim limitation that the signaling network comprises an intelligent network and that the received signaling message is received from a processing element forming part of the signaling network (emphasis added).

The argument presented above as to the failure of Norris to disclose each an every element of Group I claims is equally applicable to claim 24.

In addition, it is noted in respect of claim 24 that Norris fails to disclose an intelligent network. A person skilled in the art will recognize that the term "intelligent network" is a term of art, referring to a telephone network architecture that separates service logic from switching equipment, allowing new services to be added without redesigning switches to support those new services. No such intelligent network is disclosed in Norris.

Accordingly, it is submitted that that Norris fails to discloses two elements of claim 24: (1) receiving a signaling message prior to establishment of a call path for the incoming call; and (2) a signaling network which comprises an intelligent network.

As Norris does not clearly disclose each and every element of claim 24, Norris cannot anticipate claim 24. Reversal of the Examiner's rejection of claim 24 under 35 U.S.C. 102 is therefore requested.

**B. Rejection of claims 32, 36, 37, 39-43, 45-48, and 50-61 (i.e. Claim Groups III- IV) under 35 U.S.C. 103(a) in view of Norris and Wheeler**

3. Claim Group III: Claims 32, 36-37, 39-43, 45-48, 50-51, 53-57, and 59-61

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2143 (rev. Feb. 2003).

The suggestion to modify or combine must be found in the art, at the date the invention was made. The teaching or suggestion to make a claimed combination must be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

As recently noted by the United States Court of Appeals for the Federal Court of Appeal, in *In Re Anita Dembiczan and Benson Zinbarg* 50 USPQ 2d 1614 at 1616-17 (C.A.F.C.),

> ...it is this phrase that guards against entry into the "tempting but forbidden zone of hindsight,". ... Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then- accepted wisdom in the field. ... Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of the hindsight syndrome wherein that which only the inventor taught is used against its teacher."... Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the

requirement for a showing of the teaching or motivation to combine prior art references. [*Citations omitted*]

It is respectfully submitted that: (a) there is no suggestion or motivation to modify a reference or to combine reference teachings to arrive at any of the claims of Group III at the date the invention was made; and (b) the prior art references do not teach or suggest all the claim limitations.

*(a) Lack of Suggestion or Motivation to Combine*

References is made first to claim 32, which is set forth below (with embedded reference numerals to facilitate cross reference to the drawings):

32. The notification server [6] of claim 29, wherein said signaling network [12] comprises an advanced intelligent network (AIN) and said first interface comprises an interface to said AIN.

Claim 32 depends from independent claim 29:

29. A notification server [6] comprising:

a first interface for connection of said server [6] to a telephony signaling network [12], said signaling network [12] for carrying signaling information relevant to the establishment of call paths on a switched traffic carrying telephony network [7], said first interface adapted to receive signaling messages prior to establishment of associated call paths on said traffic carrying telephony network [7];

a second interface for connection of said server to a data network [8];

a processor operable to

a. receive a signal indicative of an incoming call originating with a caller to a specified telephone line on said traffic carrying telephony network [7], by way of said signaling network [12];

b. in response to receiving said signal, dispatch a data message indicative of said incoming call to a terminal [16] in communication with said data network [8], by way of said specified telephone line.

As evidenced by Wheeler, the AIN is used to effect signaling and call completion over the telephone signaling network. AIN primarily allows benefits in conjunction with signaling provided to the PSTN for call handling. As such, Wheeler suggests an AIN platform to provide flexible call processing. Wheeler, for example, suggests use of AIN platform that provides flexible announcements and facilitates enhanced features such as speech recognition and mail services to PSTN subscribers.

Internet call notification devices, as disclosed by Norris, on the other hand, primary receive signaling from the PSTN and need not provide signaling to the PSTN. This is further evidenced by U.S. Patent No. 5,809,128 to McMullin ("McMullin") and U.S. Patent No. 5,982,774 to Foladare et al. ("Foladare"), all considered by the Examiner.

Further, at the time of Norris, internet call notification appears to have been provided in co-operation with an internet access provider (IAP), or a separate server. At the date the invention was made, PSTN signaling messages were easily provided from the PSTN to the IAP or a separate server using other existing technologies, such as existing call busy/no answer forwarding features disclosed by Norris, McMullin and Foladare. Use of AIN signaling, which required some modification to the PSTN network, appeared unnecessary in view of the ability to use the existing technologies. Indeed, it is

submitted that, adapting the telephone network to primarily provide signaling messages from the PSTN using AIN for dispatch of data network notification (e.g. internet notification) messages, without establishing corresponding voice carrying PSTN channels was, at the date the invention was made (i.e. on or before Aug. 14, 1996), a radical departure from what is suggested by Norris. The present invention provides benefits to the PSTN operator in the delivery of internet notification — voice channels are not unnecessarily established. Providers of internet notification, such as Norris, although likely aware of the existence of AIN, appeared to have had little motivation to utilize AIN to effect Internet Call Waiting. As such, benefits provided in internet call notification through use of AIN would not have been recognized by a person of ordinary skill on the date the invention was made. In view of other existing technologies, they would not have been motivated to combine internet call notification with AIN. Any suggestion by the Examiner that persons of ordinary skill would have been so motivated, it is submitted, uses impermissible hindsight.

In the Final Office Action, the Examiner adopted the position (see Response to Arguments re: claim 32) that a mere suggestion in Norris that other networks might be used in place of the disclosed AT&T network of Norris would motivate a person of ordinary skill to combine the network of Norris with the AIN of Wheeler, and to provide the features of Norris in the AIN elements of Wheeler. The Examiner appears to rely on the fact that Wheeler's AIN could be used to implement ISDN, and that a person of ordinary skill might be motivated to use Wheeler as an ISDN network, in place of the ISDN network of Norris. The Examiner notes, "one could implement Wheeler's AT&T CO switches (SSP) as Norris' CO and ISDN network (50 and 100 FIG. 1)". It is respectfully submitted that this logic is erroneous, for at least two reasons.

Firstly, use of an AIN network as an ISDN network is clearly not claimed in claim 32, or in any other claim. Mere replacement of the ISDN capable network of Norris with an AIN network capable of providing ISDN signaling would simply not yield the invention as claimed.

Secondly, a mere observation that "one could .." make a modification or combination is insufficient to establish a *prima facie* case of obviousness. The cited art must suggest the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Indeed, any suggestion that the mere fact that a modification could be made would actually provide motivation to make the combination or modification is simply an example of use of the Applicants' own teaching to conclude that the invention is obvious.

Accordingly, it is submitted that no suggestion or motivation exists to modify or combine Norris and Wheeler to arrive at claim 36 at the date the invention was made.

Turning to the remaining claims in Claim Group III, the rejection of which was also based on a combination of features from Norris and Wheeler, the same argument applies: there is no suggestion or motivation to modify a reference or to combine reference teachings to arrive at any of these claims.

*(b) Failure to Teach or Suggest All Claim Limitations*

"All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

With reference to claim 32, it is noted that neither Norris nor Wheeler discloses a notification server including first and second interfaces to an AIN telephony signaling network and a data network respectively.

With reference to claim 36, neither Norris nor Wheeler discloses a service control point operable to dispatch a signaling message to a data network gateway in response to receiving an AIN signal.

With reference to claims 37 and 39, neither Norris nor Wheeler discloses a switching point operable to dispatch an AIN termination attempt message to a

telephone network gateway in communication with a data network gateway in response to an incoming call.

With reference to claims 40-43 and 45-48, neither Norris nor Wheeler discloses a processing element operable to dispatch first message to a data network gateway in response to receiving an AIN signaling message indicative of an incoming call.

Finally, with reference to claims 50-61, neither Norris nor Wheeler discloses dispatching first, second and third signaling messages as a method of dispatching a message indicative of an incoming call.

Accordingly, it is submitted that Norris and Wheeler do not teach or suggest all the claim limitations of any of the claims of claim group III, and therefore cannot render these claims obvious.

*Conclusion re: Claim Group III*

For the reasons stated above, it is submitted that no *prima facie* case of obviousness has been established in respect of any of the claims of Group III. Reversal of the Examiner's rejection of these claims under 35 U.S.C. 103(a) is therefore requested.

4. Claim Group IV: Claims 52 and 58

Claim 52 depends from dependent claim 51 (which depends from independent claim 50) and defines the additional claim limitation that the second signaling message is dispatched prior to establishing a call path to the second switch for the incoming call (emphasis added). Claim 58 depends from dependent claim 57 and defines a similar claim limitation.

The same arguments as were presented above in respect of the Group III claims regarding the lack of any suggestion or motivation to modify a

reference or to combine reference teachings and the failure to teach claim limitations is equally applicable to claims 52 and 58.

Moreover, as already discussed in respect of Group I Claims above, Norris fails to disclose dispatching the second signaling message prior to establishing a call path to the second switch for the incoming call.

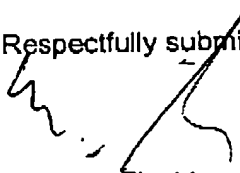
Accordingly, it is submitted that a prima facie case of obviousness has not been established in respect of claims 52 and 58, for two reasons: (a) the Examiner has not established any proper motivation to combine or modify Norris and Wheeler to arrive at the claimed invention of the claim in question; and (b) neither Norris nor Wheeler teaches or suggests the claim limitation of dispatching the second signaling message prior to establishing a call path to the second switch for the incoming call.

Reversal of the Examiner's rejection of claims 52 and 58 under 35 U.S.C. 103 is therefore requested.

**Summary**

For the foregoing reasons, it is submitted that the Examiner's rejections of claims 21-37, 39-43, and 45-61 are not well founded, and reversal of his rejections is respectfully requested.

Respectfully submitted,



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## Appendix – Claims Currently on File

21. In a switched telephone network, comprising:

a plurality of telephony switches interconnected in a switched traffic carrying network for carrying telephone call traffic and an associated signaling network for carrying signaling information relevant to the establishment of call paths on said traffic carrying network;

a method of processing an incoming call directed to a specified subscriber telephone line on said traffic carrying network, said specified subscriber telephone line initially in-use to connect a data terminal to a data network, said method comprising:

a. receiving a signaling message from said signaling network generated in response to said incoming call, said received signaling message received prior to establishment of a call path for said incoming call on said traffic carrying network;

c. in response to said received signaling message, dispatching a first data message indicative of said incoming call to said data terminal on said data network by way of said traffic carrying network and said specified subscriber telephone line.

22. The method of claim 21, further comprising:

d. receiving a second data message from said data terminal, said second data message indicative of a call disposition response provided to said data terminal.

23. The method of claim 22, further comprising:

d. in response to receiving said second data message, dispatching a signaling message on said signaling network to establish a call path between said incoming call and said specified subscriber telephone line on said traffic carrying network.

24. The method of claim 21, wherein said signaling network comprises an intelligent network, and wherein said received signaling message is received from a processing element forming part of said signaling network.

25. The method of claim 22, wherein said received signaling message comprises a telephone dial number identifying said specified subscriber telephone line.

26. The method of claim 25, wherein said received signaling message comprises at least one of a dial number associated with an originator of said incoming call and a name associated with an originator of said incoming call.

27. The method of claim 21, wherein said data network comprises an internet protocol compliant network, and wherein said first data message comprises a internet protocol compliant message.

28. The method of claim 26, wherein said first data message comprises at

least one of a dial number associated with an originator of said incoming call and a name associated with an originator of said incoming call.

29. A notification server comprising:

a first interface for connection of said server to a telephony signaling network, said signaling network for carrying signaling information relevant to the establishment of call paths on a switched traffic carrying telephony network, said first interface adapted to receive signaling messages prior to establishment of associated call paths on said traffic carrying telephony network;

a second interface for connection of said server to a data network;

a processor operable to

a. receive a signal indicative of an incoming call originating with a caller to a specified telephone line on said traffic carrying telephony network, by way of said signaling network;

b. in response to receiving said signal, dispatch a data message indicative of said incoming call to a terminal in communication with said data network, by way of said specified telephone line.

30. The notification server of claim 29, wherein said processor is further operable to receive a call disposition response message from said data terminal by way of said data network.

31. The notification server of claim 30, wherein said processor is further operable to dispatch a signaling message to said signaling network to establish a path on said traffic carrying telephony network between said caller and said specified telephone line, in response to receiving said call disposition response.

32. The notification server of claim 29, wherein said signaling network comprises an advanced intelligent network (AIN) and said first interface comprises an interface to said AIN.

33. The notification server of claim 29, wherein said data message comprises an internet protocol compliant message.

34. The notification server of claim 30, wherein said processor is further operable to dispatch a signaling message to said signaling network to establish a call path between said caller and a voice mail server, in response to receiving said call disposition response message.

35. The notification server of claim 30, wherein said processor is further operable to dispatch a signaling message to said signaling network to establish a call path between said caller and a second subscriber telephone line, on said traffic carrying network, in response to receiving an appropriate call disposition signal.

36. A service control point (SCP) for use in an advanced intelligent network (AIN) forming part of a switched telephone network, said SCP configured to dispatch a signaling message to a data network gateway interconnected to a data network, in response to receiving an AIN signal indicative of an incoming call to a specified telephone subscriber line in-use to connect a data terminal to said data network.

37. A switching point, within an advanced intelligent network (AIN) telephony signaling network, said signaling network for carrying signaling information relevant to the establishment of call paths on a traffic carrying telephony network, said switching point operable to dispatch an AIN termination attempt message on said signaling network in response to an incoming call directed to a specified subscriber telephone line in use to connect a data terminal to a data network using said traffic carrying telephony network, to a telephony network gateway in communication with a data network gateway, said data network gateway operable to dispatch a data message from said over said data network to said data terminal, as a consequence of said AIN termination attempt message.

39. The switching point of claim 37, wherein said switching point is operable to generate said AIN termination attempt message in response to an AIN termination attempt trigger generated at said switching point.

40. A processing element for interconnection with a communications signaling network carrying signals relevant to establishing call paths on a traffic carrying telephone network, said processing element comprising:

a first interface for connecting said processing element with an advanced intelligent network (AIN) signaling network in communication with a switch on said traffic carrying telephone network;
a second interface for connecting said processing element with a data network gateway for dispatching data messages on a data network;
said processing element operable to dispatch a first message to said data network gateway by way of said second interface in response to receiving an AIN signaling message by way of said first interface, said signal indicative of an incoming call to a specified telephone subscriber line in-

use connecting a data terminal to said data network by way of said traffic carrying telephone network.

41. The processing element of claim 40, further operable to

dispatch a signaling message on said first interface to establish a call path between said incoming call and said specified telephone subscriber line, in response to receiving an appropriate call disposition signal from said data network gateway on said second interface.

42. The processing element of claim 40, further operable to

dispatch a signaling message on said first interface to establish a call path between said incoming call and a second subscriber telephone line, on said traffic carrying telephone network in response to receiving an appropriate call disposition signal from said data network gateway on said second interface.

43. The processing element of claim 40, further operable to

dispatch a signaling message on said first interface to establish a call path between said incoming call and a voice mail system, on said traffic carrying network in response to receiving an appropriate call disposition signal from said data network gateway on said second interface.

45. The processing element of claim 40, wherein said AIN signaling message comprises an AIN call termination attempt message.

46. The processing element of claim 45, wherein said AIN call termination

attempt message comprises a telephone dial number identifying said subscriber line.

47. The processing element of claim 46, wherein said AIN call termination attempt message comprises an identifier of an originator of said call, including at least one of a name and dial number associated with said call.

48. The processing element of claim 47, wherein said first message comprises at least one of said name and said dial number.

49. The processing element of claim 40, wherein said processing element is further operable to monitor a voice mail server associated with said specified subscriber telephone line, by way of said signaling network, and to provide a signal to said data network gateway indicative of a message waiting for said specified subscriber telephone line, at said voice mail server.

50. In a switched telephone network comprising:

a first switch;

a first signal switching point associated with said first switch;

a second switch;

a second signal switching point associated with said second switch;

a processing element in communication with said second signal switching point;

said first signal switching point, said second signal switching point

and said processing element interconnecting in a telephony signaling network;

a method of dispatching a message indicative of an incoming call, originating with a caller interconnected with said first switch to a subscriber line interconnected with said second switch, to a terminal in communication with a data network, said method comprising:

a. dispatching a first signaling message from said first signaling point to said second signaling point;

b. in response to said first signaling message, dispatching a second signaling message from said second signaling point to said processing element;

c. in response to said second signaling message, dispatching a third signaling message from said processing element to said data network gateway;

d. in response to said third signaling message, dispatching a data message from said network gateway over said data network to said data terminal.

51. The method of claim 50, wherein said signaling network comprises an intelligent network, and wherein said second signaling message comprises a termination attempt message.

52. The method of claim 51, wherein said second signaling message is dispatched prior to establishing a call path to said second switch for said incoming call.

53 . The method of claim 52, wherein said second signaling comprises a telephone dial number identifying said subscriber line.

54. The method of claim 50, wherein said signaling network comprises an advanced intelligent network (AIN), and said first and second switching points each comprise an AIN service switching point (SSP).

55. The method of claim 54, wherein said processing element comprises an AIN service control point (SCP).

56. In a switched telephone network comprising:
a first switch;
a first signal switching point associated with said first switch;
a second switch;
a second signal switching point associated with said second switch;
a processing element in communication with said second signal switching point;
said first signal switching point, said second signal switching point and said processing element interconnecting in a telephony signaling network;
a method of dispatching a message indicative of an incoming call, originating with a caller interconnected with said first switch to a subscriber line interconnected with said second switch, to a terminal in communication with a data network, said method comprising:
a. receiving a first signaling message from said first signaling point at said second signaling point;

b. in response to said first signaling message, dispatching a second signaling message from said second signaling point to said processing element;

c. in response to said second signaling message, dispatching a third signaling message from said processing element to said data network gateway;

d. in response to said third signaling message, dispatching a data message from said network gateway over said data network to said data terminal.

57. The method of claim 56, wherein said signaling network comprises an intelligent network, and wherein said second signaling message comprises a termination attempt message.

58. The method of claim 57, wherein said second signaling message is dispatched prior to establishing a call path to said second switch for said incoming call.

59. The method of claim 58, wherein said second signaling comprises a telephone dial number identifying said subscriber line.

60. The method of claim 56, wherein said signaling network comprises an advanced intelligent network (AIN), and said first and second switching points each comprise an AIN service switching point (SSP).

61. The method of claim 60, wherein said processing element comprises an AIN service control point (SCP).